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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,898	11/13/2003	Seong Moh Seo	8733.017.20-US	6102

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MCKENNA LONG & ALDRIDGE LLP
1900 K STREET, NW
WASHINGTON, DC 20006

EXAMINER

CHOWDHURY, TARIFUR RASHID

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 03/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/705,898

Applicant(s)

SEO ET AL.

Examiner

Tarifur R Chowdhury

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15,17-19,22-31 and 33-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15,17-19,22-31 and 33-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/235,205.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/235,205, filed on 01/21/1999. **Specification**

2. The disclosure is objected to because of the following informalities:

In page 2, the divisional information need to be updated. For example application serial No. 09/781,196 is now a USPAT 6,697,140 and application serial No. 09/235,205 now USPAT 6,445,435.

Appropriate correction is required.

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor

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and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 15, 17-19, 22-29, 31 and 33-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (AAPA) in view of Hebiguchi, PN 6,091,473 and Yao et al., (Yao), USPAT 5,682,211.

5. The AAPA described in pages 2-4 and shown in Figs. 1A-1B (reproduced below), discloses a liquid crystal display device comprising:

- a substrate (10);

FIG. 1A
Prior Art

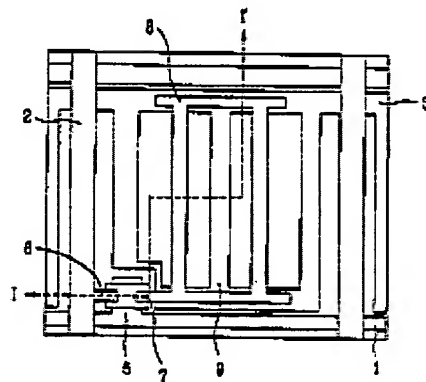
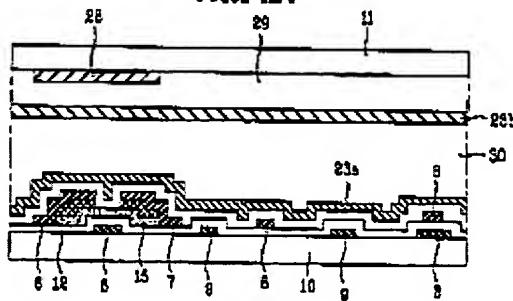


FIG. 1B
Prior Art



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- first and second gate lines (1) arranged substantially in parallel above the substrate;
- a bus line (2) arranged to intersect the first and second gate lines to define a pixel ;
- a transistor having a source electrode (6) and a drain electrode (7) formed near an intersection part of the bus line (2) and the first gate line (1), the source electrode (6) being connected to the bus line (2);
- at least one data electrode (8) connected to the drain electrode (7) of the transistor;
- a passivation layer (20) formed above the transistors and the at least one data electrode (8); and
- at least one common electrode (9) and the at least one data electrode (8) engaged in an in-plane switching mode;

The AAPA differs from the claimed invention because it does not explicitly disclose that the common electrode is formed above the passivation layer.

Hebiguchi discloses an in-plane switching type liquid crystal display wherein the common electrode (86) is formed above the passivation layer (85) (Figs. 4A-4C). Hebiguchi also discloses that forming a common electrode above the passivation layer is advantageous since it will enhance numerical aperture (col. 3, lines 16-19; col. 13, lines 52-63).

Hebiguchi is evidence that ordinary workers in the art of liquid crystal would find a reason, suggestion or motivation to form the common electrode above the passivation layer.

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Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the display device of the AAPA such that forming the common electrode above the passivation layer so that numerical aperture is enhanced, as per the teachings of Hebiguchi.

Still lacking is the limitation such that gate line is overlapping with the data electrode and thus forming a storage capacitor.

Yao discloses a liquid crystal display wherein the pixel electrode (72) (applicant's data electrode) overlaps the gate line (34) (Fig. 3). Yao also discloses that to guarantee a viewing angle of greater than 60 degrees, the overlap must be at least 1 micron or greater than 18000 Å (col. 4, lines 38-46).

Yao is evidence that ordinary workers in the art of liquid crystal would find a reason, suggestion or motivation to have a structure wherein the data electrode overlaps the gate line.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the display device of the AAPA when modified by Hebiguchi such that the data electrode overlaps the gate line and thus forming a storage capacitor so that greater viewing angle is achieved, as per the teachings of Yao.

Further, it is clear from Fig. 1B of the AAPA that the second gate line has no overlapping portions with the data electrode (8) and the common electrode (9) as well as the data electrode (8) having no overlapping portions with the common electrode (9).

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Accordingly, claims 15, 17-19, 22, 24, 33, 34, 35, would have been obvious.

As to claim 31, since the method of manufacturing the device is merely a list of forming each component and each component must be formed to make the device, the method of manufacturing would be inherent to the device.

As to claims 23, 25, 26, 27 and 36-38, the admitted prior art described in the present application discloses (page 3, lines 25-27) that forming a storage capacitor in a liquid crystal display prevents gray inversion, flicker and afterimage. Therefore, it would have at least been obvious to one of ordinary skill in the art at the time of the invention was made to form a storage capacitor either by a data electrode and a common electrode or by the gate bus line and the data electrode so that gray inversion, flicker and afterimage can be prevented in the liquid crystal display.

As to claim 28, the admitted prior art described in the present application also shows in Fig. 1B that the device further comprising:

- a second substrate (11) formed above the first substrate (10);
- a first alignment layer (23a) formed above the passivation layer (20);
- and
- a second alignment layer (23b) formed on the second substrate (11).

As to claim 29, even though the admitted prior art does not explicitly disclose the type of material used to form the alignment layers, typically alignment layers are made of polyimide and thus would have been obvious to avail a proven material.

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6. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art in view of Hebiguchi and Yao as applied to claims 15, 17-19, 22-29, 31 and 33-38 above and further in view of Kouno et al (hereinafter Kouno), PN 5,818,560.

7. The admitted prior art described in the present application does not explicitly disclose that the alignment layer comprises photosensitive material. However, Kouno discloses in column 3, lines 32-64 that by forming an alignment layer using a photosensitive material several advantages such as improved viewing angle can be achieved. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use photosensitive material that typically includes one of polyvinylcinnamate, polysiloxanecinnamate and cellulosecinnamate to form alignment layers in order to improve viewing angle.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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4. Claims 15, 17-19, 22-31 and 33-38 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 of U.S. Patent No. 6,697,140. Although the conflicting claims are not identical, they are not patentably distinct from each other because the patented claims anticipate the instant claims.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

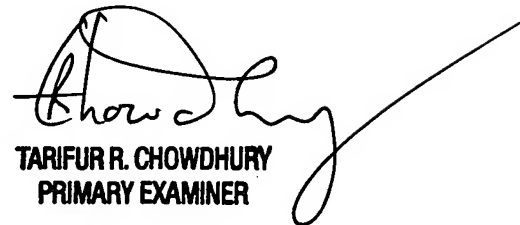
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tarifur R Chowdhury whose telephone number is (571) 272-2287. The examiner can normally be reached on M-Th (6:30-5:00) Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TRC
03/03/04



TARIFUR R. CHOWDHURY
PRIMARY EXAMINER